

Air, Water and Soils

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The official link for this solicitation is: http://www.nifa.usda.gov/funding/rfas/sbir_rfa.html

Agency:
Department of Agriculture

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Description:

The Air, Water and Soils topic area aims to develop technologies for conserving and protecting air, water and soil resources while sustaining optimal farm and forest productivity. Climate change and food security are major focal points of this topic area. Efforts are needed to reduce the production of greenhouse gases that result from agricultural activities and to increase carbon sequestration in soils. Climate change is likely to alter temperature and precipitation patterns and new technologies are needed that will better enable plant and animal production systems to adapt to changing climatic conditions. As population continues to increase food security will be critical as efforts for food production to keep pace will increasingly become a challenge. Soil and water are critical resources that impact food production. New technologies are needed that will improve water quality and conservation and use water more efficiently. We also need new technologies that will improve soil quality and fertility and reduce soil erosion.

To meet these identified needs of agriculture, the program's long-term goals (10 years) are to achieve improved air quality and improved utilization of water resources that are better able to sustain production agriculture; better use of limited water resources for agriculture through improved irrigation technologies; a more sustained soil resource through reduced soil erosion and thereby lead to more productive agriculture; and improved soil quality that will permit a more sustainable and productive agriculture.

FY 2012 Research Priorities:

Examples of appropriate subtopics for research applications from small businesses include, but are not limited to, the following:

1. **Water Quality and Conservation**–Develop new and improved technologies to optimize water management conservation at both the farm level and at a watershed scale, monitor the quality of surface water and groundwater resources for biotic and abiotic pollutants, including animal manure and pharmaceuticals, develop improved methods for the reuse of waste water, including the remediation and restoration of water resources that impact agriculture and forestry operations, and promote watershed restoration.
2. **Irrigation** –Develop improved irrigation technologies for both farming and landscaping applications that will provide more efficient and cost-effective delivery of water and chemicals. Develop new irrigation methods that allow for more efficient use of water including accurate delivery of water to where it is needed.
3. **Soil Erosion** –Develop better methods for preventing soil erosion by wind and surface water runoff and for monitoring wind erosion and sediment transport.
4. **Soil Quality**–Develop new technologies for measuring soil properties, soil nutrient content, and the physical and chemical nature of soil. Research new technologies that enhance soil properties while restricting adverse environmental impact and develop improved methods to remediate degraded soils.
5. **Air Resources**– Develop new and improved technologies to monitor air quality and reduce air pollution stemming from agricultural enterprises, including manures from livestock and poultry production systems.

Other Key Information

- **ALL ATTACHMENTS MUST BE SUBMITTED IN THE PORTABLE DOCUMENT FORMAT (PDF).**
- All Phase I applications should give the reviewing community a brief vision of where the PD expects the project to be at the end of Phase II (entering Phase III commercialization).
- Applications exceeding the budget limitation or exceeding the page limit or not meeting the formatting requirements will be excluded from NIFA review.
- The applicants are strongly encouraged to contact the National Program Leader regarding the suitability of research topics.